

## Abstract of the Disclosure

A CMOS image sensor performing an analog correlated double sampling is disclosed. The CMOS image sensor may include an image capture device for capturing an image for analog image signal from an object an analog-to-digital converter for converting the analog image signal to a digital value using a ramp signal. In such an arrangement the analog-to-digital converter may includes a chopper-type comparator receiving the analog image signal and the ramp signal and a capacitor for receiving a start voltage of the ramp signal and charging a voltage level corresponding the start voltage of the ramp signal in a reset mode and for receiving a down-ramping signal of the ramp signal in a count mode in order to remove an device offset voltage. The analog-to-digital converter may also include a ramp signal generator providing the ramp signal to the analog-to-digital converter.